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7 JOHN STREET, ADELPHI, STRAND, LONDON, W.C.2.

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CONTENTS.

COUNCIL NOTES.

THE WAR-TIME CLERK.

REPORT ON INDUSTRY AND MOTHERHOOD INQUIRY—PART I.

B. L. HUTCHINS.

THE DEVELOPMENT OF OPINION ON THE RELATION OF WOMEN'S EMPLOYMENT TO INFANTILE AND MATERNAL MORTALITY.

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COUNCIL NOTES.

A Conference to consider the future of the "Pocket Money" Clerk, will be held at Caxton Hall, Westminster, on November 1, at 3 P.M. The chair will be taken by Lord Henry Bentinck, and the speakers will be Miss Lena Ashwell, Miss Susan Lawrence, L.C.C., and Miss Violet Markham. Admission will be by ticket, which can be obtained by application to the Secretary of the Council.

The Council has suffered a great loss in the temporary withdrawal of Miss Jeanette Franklin from active participation in the work of the Investigation Committee. Miss Franklin had offered her services for duty in France before undertaking the Council work, and when asked to fulfil her promise and assume the direction of a rest camp canteen under the auspices of the Women's University Students' Canteen Committee for three months she felt herself unable to refuse.

Industry and Motherhood Inquiry.

Readers will note that Part I. of this report appears in this issue of the *News*. It is hoped that Parts II. and III. will be ready in time for the January issue.

As announced in the July *News*, the scope of the inquiry has been somewhat widened, and, in addition to the trade investigation undertaken by Miss Black, will now include a summary of expert opinion obtained by means of an exhaustive questionnaire addressed to medical men and women, matrons of maternity wards and hospitals, and experienced midwives. Another section comprises information drawn from figures and records at welfare centres, only those centres being chosen whose records contain complete information as to the previous occupation of the mother, both before and during pregnancy. Volunteers for this work are very urgently needed if the report is to be concluded by Christmas, and any member who is interested in the work and could find time to give part time to it is asked to write at once to the Secretary.

THE WAR-TIME CLERK.

To the uninitiated and inexperienced worker there seems to be a fatal attraction in the title of "clerk," more especially perhaps "lady clerk." Like domestic service in one thing only, it appeals to those desirous of adding to their financial resources as one of the occupations where moderately good salaries can be earned without the grind of previous training. It must be admitted that the Governmental authorities as well as those of the commercial world, have by their actions given impetus and colour to this delusion. Acting, doubtless, from necessity rather than from choice, they have taken into their offices and paid varying salaries to vast numbers of young people, to whom duties of a clerical nature have been assigned for which they have received no previous training. From whence come all these young women and girls, and what will be their fate "after the war"? Will they sink back to the unknown limbo from whence they came, or are they here to stay as the lady clerk?

The scientific investigator always begins at the beginning—"whence" must precede "whither," and here at once is a field of detailed inquiry which seems at first baffling. The broad outlines can, however, be indicated.

Some of these clerks have drifted or worked their way up from other occupations; some have hitherto lived either a life of ease or of "helping mother at home"; yet others have left school, often prematurely, during the war and started life—on a temporary basis. Here, then, already, are three distinct groups which could, doubtless, be subdivided and subsectioned into many more.

One can but make a wild guess at the numbers involved in the great upheaval. We do know, however, that 20,000 are cited as being employed as clerks on the railways; also that new and temporary Government departments greet us on the Embankments and in the parks, while there is hardly a large hotel left which is still pursuing its normal life and fulfilling the object for which it was created. And all these temporary departments are largely staffed by women.

One needs no figures to convince one's reason that immense numbers of them will be demobilised after the war. It is a problem that "gives one furiously to think." One hopes that, having acquired habits of industry and independence, the idler will not wish to return to her former mode of living, and in view of the increased cost of living likely to persist for many years it is probable that the majority will be, if not compelled, at least impelled to add to their resources in some way. One opines that parents will not be so ready with dress allowances, theatre tickets, hampers for river parties, tennis-club subscriptions, &c. These amenities of life being regarded, quite

naturally, as necessaries by girls who can "only be young once, must, therefore, be provided in some other way. And here we have the "pocket-money worker."

That she should work, earning even only semi-economic independence, gaining habits of regularity and industry, as well as contributing to the necessary labour of the country, is all to the good, and one can only wish and hope that she will continue to do so after the war. Subject only to one condition, viz.: that she does not take advantage of her semi-dependent position to undercut her competitors when the labour she can offer is a glut in the market and posts are hard to seek.

To turn to the other class of clerical war workers and their problematical future, it seems certain that other avenues of work must be put in their way. A careful survey must be made of possible commercial openings suitable for them, the demands for labour likely to arise, and the facilities for training that are available. And here we come to another difficulty, and competition of a different kind. War pensions committees dealing with semi-disabled men from the Forces are also investigating the prospects, facilities for training, &c., that would be suitable for the men broken in the war, and one would not wish women clerks to enter the stakes against wounded soldiers.

Then, again, there are the occupations which women have already entered in large numbers to replace men, but in which the men returning to civil life will, very rightly, expect their places to be reserved for them.

There remain the new trades and industries which will be developed after the war, about which some information is already available, but much more is merely speculative. Lastly, there are what one may call the normal women's trades, most of which are very depleted of labour at the present time and are, for many reasons, out of favour among women workers. The reason is not, of course, very hard to seek. In most of them the earnings are small, the work monotonous, and the hours long as compared to those of the "lady clerk." So one comes inevitably back to the old starting-point, that conditions of women's labour must be improved, if only to relieve the pressure of competition with men, not only with the semi-disabled, but also with the healthy and fit returned soldiers and sailors. For the war has shown us one thing conclusively, viz.: that women can compete successfully with men in men's own work, and find it, on the whole, pleasanter and more interesting, as well as better paid, than their own work. Under such circumstances it will not be surprising if they decline to return to their own trades unless very material alterations are made in conditions of employment.

REPORT ON INDUSTRY AND MOTHERHOOD INQUIRY.

PART I.

THE DEVELOPMENT OF OPINION ON THE RELATION OF WOMEN'S EMPLOYMENT TO INFANTILE AND MATERNAL MORTALITY.

I. Infant Mortality.

Little scientific attention was given to the subject of infant mortality until the decade 1891-1900. In those years the continued fall of the birth-rate began to cause uneasiness, and a series of several unusually hot summers raised the infantile death-rate to a point above the previous average. Up to that time the general public had taken little interest in the subject, and the lukewarmness of the scientific world may be gauged by the fact that the Index of the *Journal* of the Statistical Society shows a paper on the subject in 1865 and no other until 1894. A certain amount of material can be found in reports and pamphlets dealing with the state of women and children in industry, which often contain at least some incidental remarks or observations on the effects of industry on infant life. The same may be said of the voluminous reports which resulted from the Public Health agitation of the mid-nineteenth century. The inquiries of Dr. Southwood Smith, Edwin Chadwick, and others, *circa* 1838 and onwards, revealed an appalling state of things in many large towns and working-class districts: insufficient water-supply, neglect to remove refuse, slum dwellings of the worst type. Observations on the high rates of infant mortality characteristic of such districts and on the effects of married women's employment can be found scattered among these reports. We do not propose to discuss this part of the subject in detail, as any statistics given would now be entirely out of date. It will suffice, for this period, to quote the conclusions reached by Sir John Simon, Medical Officer to the Privy Council.

In 1858 Sir John Simon summed up the causes of high infant mortality in two main groups: (1) common sanitary defects of residence, foul air, foul water, localities and houses undrained, unpaved, unscavenged, unwashed, unlighted, and unventilated; (2) the employment of women away from home, resulting in neglect of house and children, the use of opiates for infants, and so on.* The

* Papers relating to the Sanitary State of England, 1858, p. xxxiv, quoted by Newman, 'Infant Mortality.' p. 92.

great differences in local rates of infant mortality could be accounte for by the difference in the degree of insanitation prevailing in different localities, and by the occupational differences among the inhabitants.

The second cause, the industrial employment of women, seems for many years to have been given much more prominence as a factor in infant mortality than the first, "sanitary defects of residence." Dr. Greenhow, who made a report summarised in the fourth Report of the M.O. of the Privy Council, concluded that the infantile death-rate bore no definite relation to the general death-rate, and laid great stress on the industrial employment of married women, associated with ignorance, carelessness, and improper feeding, as the main factor inimical to infant life.* This association was accepted with little question for many years. It found expression in the clause of the Factory Act, 1891, which prohibited the employment of women within four weeks after their confinement. This clause, though undoubtedly humane in intention, was largely a dead letter owing to the absence of any alternative provision for the woman forbidden to work—an omission which found belated recognition in the maternity provision of the Insurance Act, 1911.

In 1894 Dr. Hugh R. Jones delivered a paper on 'The Perils and Protection of Infant Life.'† After giving weight to overcrowding, insanitation, bad feeding, and neglect as factors injurious to infant life, he gave tables of statistics showing an association "between the general employment of women in industrial occupations and a high rate of infant mortality" (p. 55). He assumed the employment of women to be increasing (p. 66).‡ He laid stress on the factor of ignorance. "Half the deaths of infants are attributable to bad feeding. This bad feeding depends upon ignorance. In rural districts infant mortality is low; this factor cannot be explained by the abundance of fresh air or by the high standard of general education which obtains there. It can only depend upon the better training of the young girls, who are familiarised from their earliest youth with the care and management of children" (p. 76).

This paper was criticised by Mr. Noel Humphreys on the ground that the influence of female occupation on infant mortality had been prejudged without sufficient evidence, and this speaker adduced instances from the mining districts, where a lack of employment for women outside their homes was associated with high rates of infant

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* *Ibid.* pp. 97, 98.

† *Journal* of the Royal Statistical Society, March, 1894.

‡ But compare Report by Miss Collet on Employment of Women and Girls, Labour Department, 1894, which shews reason to suppose that on the whole the employment of married women was decreasing.

.ality. The occasion of Dr. Jones's paper and the discussion .ising out of it may be regarded as the opening up of a fuller and more discriminating research into the causes of infant mortality.

In 1898 Miss Clara Collet made a study of the official statistics relating to the extent and effects of the industrial employment of women, in the course of which she criticised Dr. Jones's paper and considered the hitherto generally accepted views as to infant mortality. In this paper Miss Collet pointed out that existing statistical information did not show that the employment of women was increasing, nor did the figures available lead to the conclusion that differences in the extent of employment of married women in towns were the main cause of the difference in the infant mortality rate. For, in point of fact, some towns with a low percentage of female employment showed a high rate of infant mortality, and a high rate of infant mortality was not an invariable characteristic of towns with many married women working. "Married women's labour may be carried on under good conditions or bad conditions; it may be well paid or badly paid; it may be carried on under compulsion or by choice (p. 235). It may be the labour of childless women or of women with children whom they are supporting or whom they choose to neglect. That the results on infant life should be the same according to numbers of occupied wives, regardless of any question of the proportion in which these different classes exist among them, would be surprising, unless it be held that this proportion would always vary directly with poverty. This is very doubtful; and nothing in the preceding tables seems to me to point to such a conclusion."

In regard to Preston and Blackburn, which in those days were frequently cited as stock instances of the relation of married women's employment to infant mortality, Miss Collet pointed out that a comparison of the two towns did not justify such a conclusion, for Blackburn, with a higher proportion of female employment and a higher proportion of married women occupied, had nevertheless a lower rate of infant mortality than Preston (p. 238). "Let me here guard against misapprehension. I take it as an indisputable fact that the industrial employment of married women with young children is an evil. I am not arguing that the employment of married women under such circumstances is not proved to be injurious; statistical evidence of such a fact is not necessary. The point is this, that in towns where an unusually high proportion of married women are occupied in factories, it does not follow that an unusually high proportion of mothers of infants under 1 year are employed, or even that the children of the mother at work are more neglected than those of unemployed mothers in the same position; and it is

possible that some of the causes at work in districts with high rate of infant mortality and low percentages of married women occupied are also at work in some of the factory districts. And there is nothing so likely to weaken the powers and relax the effort of the medical officer of health as the easy-going policy of a sanitary committee which believes itself entitled to attribute high death-rates to the moral habits of the community quite apart from such factors as overcrowding and bad sanitary conditions."*

In 1902 Mrs. Tennant, contributing a chapter on 'Infant Mortality and Factory Labour' to Sir Thomas Oliver's large work on 'Dangerous Trades,' based her remarks on the traditional view that the employment of women is the child's most deadly enemy. She wrote evidently under the impression that infant mortality and married women's employment were increasing, the first being the result of the second; and she made no reference to Miss Collet's criticism of these assumptions. Mrs. Tennant avowed her desire for a measure prohibiting employment of women for six or three months after childbirth and thought the motive for mothers of young children entering the factory was ignorance of home duties, desire for companionship, even fashion, rather than poverty.

The Interdepartmental Committee on Physical Deterioration, which was appointed in 1903 and reported in 1904, gave occasion for considerable discussion on married women's employment. Some of the witnesses called took the view that it was an unqualified evil. The whole subject was summarised by Miss Anderson (Principal Lady Inspector of Factories), assisted by her colleagues, in a Memorandum which remains on the whole the most serious and impartial statement of the question that has yet been made. Miss Anderson, after drawing attention to the lack of statistical information, said that much could be learnt from the comparison of local and general infantile mortality rates, with particular reference to the local extension of employment of mothers, if careful inquiry were made at the same time as to the presence or absence of other recognised causes of high infant mortality (insanitary surroundings, ignorance of maternal duties, intemperance, poverty, use of means of prevention of child-bearing). "The mere fact of extensive employment of mothers in a locality cannot be regarded as significant by itself without reference to the factors of length of hours, character and condition of the work itself (which vary enormously from one industry to another), and to the ordinary standard and practice of the mothers in the district as to care of infant life" (p. 118).

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* Clara Collet, M.A., "Extent and Effects of Industrial Employment of Women," *Journal* of the Royal Statistical Society, June, 1898.

A special inquiry had been made by the women inspectors in towns of three industrial centres: Dundee (jute), Blackburn, Burnley, and Preston (cotton), Hanley and Longton (pottery). The three Lancashire towns showed a much higher standard of comfort, and an absence generally of serious struggling poverty. All the six towns were characterised by a great extent of female employment and a large proportion of married women occupied; in all of them a striking degree of ignorance of maternal duties was evident. Sanitary and housing conditions differed widely, so did industrial conditions as to hours, speed, heat, dust, &c. In all these towns infant mortality was high, but, as Miss Anderson pointed out, equally high rates were elsewhere to be found where the industrial employment of mothers was not a special feature. It was also noted that the rate of infant mortality, though relatively high in all these towns, showed considerable difference among the six and considerable differences in different years. In the cotton towns, although the industry is more strictly regulated by law than is the pottery trade, a special characteristic was the tremendous strain to which the women were subjected. Hours of work protracted to the full legal limit, the speed of the machinery, the heat, dust or alternatively humidity, the pressure on the workers to work up to the utmost of their strength, impressed themselves on the minds of the inspectors investigating. In many non-textile industries the hours worked were customarily shorter (though legally they might be somewhat longer); and in earthenware and china works, although there were certain specific dangers to health, the pressure of fatigue was not so great.

Much more localised information with reference to sanitary surroundings in selected areas would, in Miss Anderson's opinion, be necessary before we could definitely connect the infant death-rate with the occupation. Miss Anderson's suggestions for further study and systematisation of information were: (*a*) localisation of the infant mortality rates for particular areas in industrial towns where the workers of selected industries live; (*b*) general infant mortality rates for selected industries throughout the country. In referring to the proposals made for prohibiting industrial work by mothers for an extended period after childbirth, Miss Anderson drew attention to the enormous practical difficulties of such legal prohibition; to the great desirability of self-dependence for unmarried mothers, whose best hope of rescue from degradation is to be able to earn their own and their infant's living; and to the probability that any such measure would increase the use of unlawful means to prevent child bearing. She also urged the importance of better all-round education for girls, and the desirability of establishing some system of maternity benefit for expectant mothers, and co-ordinating and strengthening

such provision where already in existence in provident and friendly societies.

The publication of the Physical Deterioration Report did at least establish the fact that infant mortality is a highly complex subject and that its causes are not few and simple but many and involved. Sir G. Newman in his work on 'Infant Mortality' (1906) gives a considerable place to married women's work as a factor, but he states (p. 110) that "the mere fact of extensive employment of women, and particularly of mothers, in factories cannot be regarded as significant in itself. To gauge the effect of such employment on the children of such women reference must be made to some of the following....namely: (*a*) the character and condition of the work; (*b*) the length of hours; (*c*) employment before and after childbirth; and (*d*) the sanitation of factories and workshops. To these should be added the variations in the birth rate prevalent in different trades, the effect of certain industries upon maternity in the way of raising (if such be possible) or reducing the standard and practice of mothers as to the care of infants, and, lastly, the causes of the mother's employment."

Sir George Newman went on to point out (p. 111) that as a general rule women worked in factories because it was necessary for them to earn money, and not, as has been hastily assumed (even, strange to say, by Mrs. Tennant, as noted above), for "pin-money" or for the pleasure of it. "Such cases are the exception and the very rare exception in married women. The latter work either because the industry of the locality is mainly a woman's industry (as in Blackburn, Preston, or Dundee), or in order to eke out the failing wage of a sick or unemployed husband. They are frequently persons struggling against adversity and endeavouring in an unequal combat to act as wage-earner and house-mother. And experience shows that as a rule it cannot be done without evil results. For, in addition to the natural anxiety and stress thus thrown upon the women, there are the added strains of factory life, hard physical labour, injurious trade processes, fatigue, and so forth....In some trades women act as beasts of burden....Women are not infrequently employed in carrying or lifting weights which cannot fail to exert serious injury to some. 'Many are the complaints of weariness and overstrain,' writes a lady factory inspector, 'made to me by girls and young women—some of them mothers—who are too poor or too unskilled to leave an employment which is making too great a demand upon their physical powers and which in some instances has caused serious injury.' Nor is lifting or carrying heavy weights by any means the only physical strain which women undergo in many trades, as becomes very apparent if one studies the records of women's

ar in brushmaking, in the linen industry, as hat furriers, or as andresses" (p. 112).

In resuming his conclusions on the occupation of women, Sir G. Newman stated the disadvantages of maternal employment to infants to be three (p. 131): "First there are the ordinary injuries and diseases to which women and girls in factories are liable; secondly there is the strain and stress of long hours and hard work to the pregnant women; and, thirdly, there is the absence from home of the mother of the infant. It cannot be doubted that these are the factors in the relation between factory occupation of women and a high infant mortality....Statistical returns do not entirely support the assertion that factory employment of women is the main cause of high infant mortality....To take a single example, it has been alleged that factory employment of women is the only cause of the heavy incidence of fatality from premature births. No doubt it bears a relation, but the fact is that prematurity is more a cause of infant death in districts where there are no factories than where there are. It is admitted that prematurity and immaturity is the chief cause of death in infants in the first trimester of life. Is it not then a strange fact that only 47.6 per cent of the infant deaths in Lancashire occur within the first three months of life, whereas in the three counties where there is least factory employment of women and the lowest infant mortality (Westmorland, Dorset, and Wiltshire) the percentage of deaths in the first three months is 61 (or 34 per cent higher)? Or, again, in Preston and Blackburn the employment of women has been *declining* since the census of 1891, but the infant mortality has been increasing. Or once more, in the Durham coalfield and in South Wales, districts in which women are not much engaged in industrial occupations, infant mortality has been increasing since the middle of last century, and now stands among the highest rates, whereas in the West Riding of Yorkshire, where women are much employed in the mills, the infant mortality has been declining within the same period." *

In 1914 a special inquiry into infant mortality in seven towns in Lancashire was organised by the medical officer of the Local Government Board. These towns were selected as having all a high proportion of women employed in industry, while the rate of infant mortality varied widely. No definite relation between married women's employment and infant mortality can be discerned in the figures given. Burnley has an infant mortality 90 per cent above that of Nelson, but the proportion of married women working

* 'Infant Mortality,' by G. Newman (p. 137).

is only slightly higher, viz.: 414 in Burnley, 371 in Nelson. Th figures below are extracted from pp. 9 and 18 of the Report :—

	Infant Mortality per 1,000 Births in 1913.	Proportion per 1,000 of Married Women occupied.
Farnworth	215 ..	241
Wigan	179 ..	95
Burnley	174 ..	414
Widnes	132 ..	43
Colne..	101 ..	322
Nelson	91 ..	371
Stretford	91 ..	64

It will be noticed that the highest rate of infant mortality, at Farnworth, is not associated with a specially high proportion of married women occupied; that Burnley and Wigan, with high and nearly similar rates of infant mortality, have respectively the highest and the lowest proportion but two of married women occupied; that Nelson with a low rate of infant mortality has a high proportion of married women's employment.

Figures given on p. 16 show that the occupation of mining, though confined to the male sex, shows a rather close relation to infant mortality. Farnworth has 18.7 per cent, Wigan 36.5 per cent, Burnley 8.7 per cent of male workers engaged in mines. The other four towns investigated have less than 1 per cent of male working in mines, and much lower rates of infant mortality. The report says: " Differences of opinion may reasonably be entertained as to the causes of the excessive sacrifice of child life in mining families. Unsatisfactory standards of housing and grossly defective arrangements for the disposal of refuse of all kinds are largely concerned in it....The housewife, both in mining and in the textile districts, is not sufficiently helped in her efforts at domestic cleanliness. Domestic conveniences for cleanliness are inadequate, and commonly there is no satisfactory storage for food " (pp. 16-17).

The striking difference between the infant mortality rate of Burnley and Nelson cannot, it is stated, be explained by occupational differences, nor is there any great difference in the wages earned. The more favourable position of the infant in Nelson seems to be due to higher elevation—Burnley lies low, Nelson high—to less density of population, and a heavier rainfall. Burnley also is a much older town, and the central parts are characterised by " considerable squalor "; in Nelson, on the other hand, the housing is " generally of good quality." Another point is that in Nelson a larger proportion of the population have recently moved in from the country districts, whereas in Burnley a larger proportion have been town dwellers for two or three generations (pp. 24, 25). It is pointed out by

.1. Newsholme (p. 18) that it need not be concluded that "Nelson's .vourable infant mortality is no less favourable than it would be if all expectant mothers and mothers with infants became housewives instead of direct breadwinners." In another passage (p. 25, quoting from the 'Second Report on Infant and Child Mortality,' p. 64) he remarks that "in Burnley the extensive employment of unmarried women in factories leads to their becoming wives and mothers without any domestic training and with indifferent habits as to cleanliness. These supposed influences do not, however, appear to produce the same effect in Nelson, or they are concealed by the countervailing favourable circumstances of this town." On p. 67 it is stated that: "In Nelson there are only fifty-two back-to-back houses scattered over the more central and older portions of several wards." In Burnley and Colne infant mortality shows striking variations in back-to-back and "through houses," being in every case recorded more than double in the back-to-back houses (p. 66). It is noticeable that in Nelson, as in most places, there are wide variations in infant mortality in the different wards (p. 64) and, presumably, if the progress of sanitation brings up the backward wards to the standard of the more advanced, infant mortality will be further reduced, apart from any reduction in married women's employment.

Dr. Brend, in his recent work,* says that special researches "have failed to establish a close and constant connection between women's labour and high infant mortality. In Wigan, for example, where only 12 per cent of the total married women and widows are engaged in non-domestic work, the infant mortality rate in 1913 was 180, whereas in the textile town of Rochdale, with a percentage of 28 so employed, the rate was only 106. The question is complicated by the fact that among the poorest classes harm caused by employment may be more than counterbalanced by the additional food and home comforts which the mother is able to purchase with her earnings; but, as Dr. Newsholme has pointed out, the industrial employment of married women cannot be looked upon as the chief cause of infant mortality. Dr. Greenwood, formerly M.O.H. for Blackburn, found very little difference in the infant mortality rates among mothers industrially employed and those not so occupied, and he says: 'As a result of this investigation I came to the conclusion that no case had been made out for the further restrictive legislation in the prohibition of employment of women in the cotton mills in Blackburn.'† Dr. Jessie Duncan at Birmingham found that there was scarcely any difference in the weights of children whose mothers were industrially employed and those whose mothers were not. We may

* 'Health and the State,' pp. 75, 76.

† *Journal* of the Royal Sanitary Institute, vol. xxxii., 1911.

see that hard work is not necessarily incompatible with low infant mortality, for women often undertake heavy labour about farms and even toil in the fields in many parts of France and the remote districts of Scotland and Ireland. The unprecedented demand for female labour during the war does not seem so far to have caused any rise in the infant mortality rate " (p. 76).

Dr. Brend doubts whether maternal ignorance is as important a factor in excessive infant mortality as has generally been supposed. " That some ignorance exists among mothers is unquestionable, but many facts show that both its extent and effects have been grossly exaggerated....There is no reason to believe that rural mothers are so much better informed in the care of infants than their town sisters. We cannot assume that the Connaught peasantry—many of whom can neither read nor write—are so well instructed in the care of infants that as a result infant mortality among them, in spite of poverty and hard conditions, is one-half that among the mothers of Kensington or Westminster, and one-third of that in Bradford, where so much has been done in providing instruction for mothers " (p. 77; see pages following for other instances).

The Report of the Medical Officer of Health for Blackburn, 1915, gives the results of an inquiry into the rate of mortality among the children of industrial and non-industrial mothers respectively. The results are in favour of the non-industrial mothers, but the difference is not very great. Among the children of industrial mothers investigated, the death-rate at the end of 6 months was 11.3; at the age of from 18 to 24 months, 27.1. Among the children of non-industrial mothers the corresponding figures were 10.0 and 24.3. The M.O.H. remarks on these figures that there is only slight evidence that the children of industrial mothers suffer as compared with those of non-industrial mothers up to the age of six months. But in regard to the figures respecting children at the later age-period there is " some evidence that the children of industrial mothers do suffer as compared with those of non-industrial mothers, a somewhat larger proportion of the former dying before reaching the age of 18 months and a somewhat larger proportion of those living at that age being in a less satisfactory state of health " (pp. 35-6).

Miss Clementina Black, in her introduction to ' Married Women's Work,' remarks (pp. 4-5) that the question of whether young children suffer in consequence of their mothers being engaged in work for money " is one of the most important that arises in connection with such work. Unfortunately, it is one to which no generally decisive answer can be given. The percentages of infant mortality are, indeed, usually high in districts where a majority of mothers go out to work, but are scarcely lower in some others where population is

.ily dense, and are as high or even higher in mining districts, where .ves are mostly not wage-earners but where domestic toil is apt to be peculiarly heavy owing to the prevalence of grime and to the circumstance that members of the same household often belong to different working shifts and have consequently to be fed separately. But while it is not proved that work for money on the part of mothers is *per se* bad for children, it does appear to be proved that the effects of some occupations (those for example, in which there is risk of lead poisoning) are adverse to the bearing of healthy children, and it will be generally conceded, without the need of specific proof, that any employment, whether industrial or domestic, which involves severe muscular strain or the lifting of heavy weights is dangerous for expectant mothers."

Reference may here be made to a valuable report on 'Infant Mortality and its Relation to the Employment of Mothers,' prepared in 1912 for the Commission on Women and Child Wage-earners in the United States. The Commissioner, reporting on Massachusetts, remarked that it had often been customary (as we have noted above), in approaching statistically the subject of married women's employment in its relation to infant mortality, to ignore the many other complex social and economic factors bearing on the matter. His researches showed that certain of these factors which had been mostly ignored were with fair uniformity co-existent with a high infant mortality rate, these being (1) a high proportion of foreign born; (2) a high proportion of female illiteracy; and (3) a high birth-rate. It was true that six cities of Massachusetts having an extremely high infant death-rate had also a high proportion of women employed in extra-domestic occupations, and a higher proportion so employed than six industrial cities with low infant mortality rates presented with them for comparison. But, on the other hand, the six cities with low infant death-rates showed a higher proportion of women industrially employed than did 32 other cities shown in a separate table, and a considerably higher proportion than the State of Massachusetts itself, while the infant mortality rate was not only lower than the rate for the 32 cities but 19 per 1,000 less than the rate for the State at large, even including rural districts. "This result clearly disproves the contention that the extra-domestic employment of women is the dominant factor in determining the infant death-rate so far as the Massachusetts cities are concerned" (p. 49).

A report on infant mortality in Fall River, Mass., included in the same volume, shows that in this district, with an infant mortality of 177.6, an investigation of a number of infant deaths gave the result that in only 83 cases, 14 per cent of the whole, had the child been deprived of its mother's care because of her going out to work. The

high infant mortality of Fall River was therefore, as a whole, clearly not due, except in small part, to the excessive rate among the children of mothers at work outside the home (pp. 73-4).

II. Maternal Mortality.

Very little research has so far been made into this subject, and the Supplementary Report by the Medical Officer of the Local Government Board on 'Maternal Mortality in connection with Child-bearing' may be cited as a pioneer effort. Little space is devoted to the subject of occupation. On p. 55 Sir Arthur Newsholme says that: "A consideration of the distribution of excessive mortality from child-bearing in counties and county boroughs suggests a close association between the industrial occupation of married women and an excessive toll on maternal life from child-bearing." He goes on, however, to say that while the textile counties, Lancashire, Cheshire, and the West Riding, have an excess mortality from child-bearing, Westmorland, Herefordshire, Cumberland, and Devon and Cornwall, with few or no textile industries, also show an excess mortality from child-bearing. The figures given in regard to industrial towns are considered by Sir Arthur Newsholme "to show more clearly the intimate association between industrial textile occupations and high mortality from child-bearing." The figures given in support of this thesis are, however, somewhat ambiguous, and show the same kind of discrepancies as the figures for infant mortality cited above, viz.: there are mining towns which show a very low proportion of married women employed and a relatively high maternal mortality; there are textile towns with a comparatively high proportion of married women employed, some of which show a relatively high rate of maternal mortality, some a low one. Sir Arthur Newsholme concludes his remarks on this head by saying that: "No completely consistent relationship between excessive mortality from child-bearing and a high degree of employment in factories is visible in these tables, though it can scarcely be doubted that a close association exists between the two factors. It would appear that the influence of factory work or of some measures of life or conduct associated with factory work, operates to a much greater extent in some textile towns than in others. The indirect as well as the direct effect of employment in factories of married women needs consideration. The desire not to incur the pecuniary loss incurred by temporary absence from work during pregnancy and after confinement in some instances may form a powerful inducement to the use of mechanical or chemical abortifacients. The suspicion that this practice is prevalent in certain quarters has already been mentioned (p. 16). Apart from such practice it is to be expected that

anding and the laborious work of factory life will tend to increase risk of complications in connection with child-bearing " (p. 57).

In connection with this subject the volume of letters from working women, published under the title of ' Maternity ' by the Women's Co-operative Guild (Bell, 2*s.* 6*d.*), should be studied, although it contains no information as to maternal mortality. The book provides a vivid picture of the suffering endured by women of the working class. In an introduction, by the editor (who remains anonymous), the following passage occurs: " Writers on infant mortality and the decline of the birth-rate never tire of justly pointing to the evils which come from the strain of manual labour in factories for expectant mothers. Very little is ever said about the same evils which come from the incessant drudgery of domestic labour. People forget that the unpaid labour of the working women at the stove, at scrubbing and cleaning, at the wash-tub, in lifting and carrying heavy weights, is just as severe manual labour as many industrial operations in factories. It is this labour which the mother performs often up to the very day on which the child is born, and she will be at it again perhaps six or eight days afterwards " (p. 6).

The Report of the Departmental Committee on Sickness Benefit Claims under the National Insurance Act* also contains a good deal of incidental information on the health of married women, though nothing precisely bearing on the relation of occupation to mortality. Miss MacArthur, commenting on the observed fact that women are more liable to incapacity by sickness than men, contends that " (apart from normal physical reasons) this extra sickness of women is due to their greater poverty, and to the character of their employment. Long hours, long standing, lack of fresh air, long intervals without food, are undeniably, especially in the case of young anæmic girls, detrimental to health, and the low wages which attach to most women's employment involve insufficient and often improper food. ....To sum up: the main causes of excessive sickness are in my opinion, in the first place, poverty, with all its concomitants; and in the second place, want of care and rest during illness, of medical treatment in the past, and of adequate medical treatment in the present." In giving evidence Miss Macarthur remarked (q. 14265-6) that the claims on her approved society for sickness benefit were noticeably lighter in districts where industrial conditions were better and wages higher.

The mere fact of engaging in an occupation thus appears not to be so prejudicial to women's health as are the incidental bad conditions still associated with so much of their employment.

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* Cd. 7687 of 1914, pp. 78-80.

Conclusion.

In conclusion, it may be pointed out that infant mortality in the last forty years shows a definite reduction. The following figures are taken from Dr. Brend's book, p. 105 :—

Infant Mortality, England and Wales, 1881-1915.

Year.	Deaths Under 1 Year per 1,000 Births.	Year.	Deaths Under 1 Year per 1,000 Births.
1881–85	139	1907 ..	118
1886–90	145	1908 ..	120
1891–95	151	1909 ..	109
1896–1900 ..	156	1910 ..	105
1901	151	1911 ..	130
1902	133	1912 ..	95
1903	132	1913 ..	108
1904	145	1914 ..	105
1905	128	1915 ..	110
1906	132		

The following are the county boroughs with the highest rates of infant mortality for the year 1915 (Registrar-General's Report) :—

Barnsley	172
Burnley	166
Wigan	164
Merthyr Tydfil	156
Preston	155
Sunderland	151
Middlesbrough	150
West Hartlepool	150
Stoke-on-Trent	148
Gateshead	147
Blackburn	146

It will be noticed that only the first three boroughs are above the average rate for England and Wales twenty years ago.

Between the census 1901 and the census 1911 the proportion of women occupied changed very little, but showed a slight rise :—

Proportion per 100 Females Occupied.

	Single.		Married or Widowed.	
	1901.	1911.	1901.	1911.
England and Wales ..	52.3	54.5	13.2	13.6

The proportions in the towns with the highest infant mortality 1915 are as follows :—

PROPORTION PER 100 FEMALES OCCUPIED.

	Single.		Married or Widowed.	
	1901.	1911.	1901.	1911.
Barnsley	?	49.5	?	9.6
Burnley	75.4	76.6	33.8	40.0
Wigan	63.7	63.8	10.5	11.8
Merthyr Tydfil ..	?	34.4	?	6.4
Preston	73.8	74.5	30.5	35.0
Sunderland	38.2	40.7	7.7	8.3
Middlesbrough ..	33.1	36.9	6.1	7.4
West Hartlepool ..	?	39.0	?	7.2
Stoke-on-Trent ..	?	63.0	?	23.2
Gateshead	39.0	42.0	6.4	7.9
Blackburn	76.5	78.0	37.9	42.5

It will be noticed that only a few of these towns show a high proportion of married or widowed women occupied. Thus no constant relation can at present be established between excessive infant mortality and a high proportion of married women occupied. Nor is there, as far as existing data go, any reason to suppose that domestic ignorance or child neglect are the result or the invariable concomitant of maternal occupation. It is evident that further investigation is still needed, especially intensive study of small areas and of rural areas.